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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,189	05/31/2000	Seung-Chan Bang	11349-P65582US0	4177
26171	7590	09/30/2005	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			BURD, KEVIN MICHAEL	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/584,189	Applicant(s) BANG ET AL.	
	Examiner Kevin M. Burd	Art Unit 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 161-163 is/are allowed.
- 6) ☒ Claim(s) See Continuation Sheet is/are rejected.
- 7) ☒ Claim(s) 87-94, 96, 97, 122-124 and 154-158 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 83,86-94,96,97,99,101-109,113,116,117,119-124,126,128-141 and 152-179.

Continuation of Disposition of Claims: Claims rejected are 83,86,99,101-109,113,116,117,119-121,126,128-136,140,141,152,153,159-161 and 164-179.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 9/21/2005 has been entered.

Allowable Subject Matter

Prosecution on the merits of this application is reopened on claims 83, 86-94, 96-97, 99, 101-109, 113, 116, 117, 119-124, 126, 128-136, 140, 141 and 152-161 are considered unpatentable for the reasons indicated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 83, 86, 99, 101-109, 113, 116, 117, 119-121, 126, 128-136, 140, 141, 152, 153, 159-161 and 164-179 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ovesjo et al (US 6,108,369) in view of Dohl et al (US 5,638,362) further in view of Stewart et al (US 6,009,091).

Regarding claims 83, 113, 116, 117, 141, 152, 159, 168-174 and 176-178, Ovesjo discloses an apparatus for converting data to a channel modulated signal having a plurality of pairs of in-phase and quadrature phase data. This is shown in figure 1A. The plurality of I signals are input to multipliers 10 and 12 where the quadrature signals are input to multipliers 14 and 16. Data and control information is encoded to data and control channels (column 3, lines 2-16). Code generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes correspond to an orthogonal variable spreading code (column 5, lines 16-31). The spreading codes allocated to the data channels are represented in the code tree shown in figure 2. Though Ovesjo discloses transmitting a plurality of pairs of I and Q signals as shown in figure 1A, Ovesjo does not disclose allocating a spreading code to a first and second (I and Q) data channel. Dohl discloses the I and Q channel data are spreading by the same spreading code in column 14, lines 24-26. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the same spreading code for each I and Q pair as taught by Dohl in the apparatus of Ovesjo to minimize the number and complexity of spreading codes used. This in turn would allow the data rate to be at a maximum. The combination of Ovesjo and Dohl does not disclose the spreading code allocated to the control channel is represented by a code with a spreading factor of 256 and a code number of zero. Stewart discloses the DPCCH consists of known pilot symbols to support channel

and SNR estimations and is typically spread by a factor of 256 (column 41-47). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the control code of Stewart in the combination of Ovesjo and Dohl to take advantage of the power and rate control used to control the data transmitted (column 1, lines 41-47).

Regarding claims 86, 119-121, 140, 153, 160, 166 and 167, Ovesjo discloses code-generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes allocated to the data channels are represented in the code tree shown in figure 2 and the codes are defined by their spreading factor and code number as shown in figure 2.

Regarding claims 99, 126, 175 and 179, Ovesjo discloses the data channels shown in figure 1A.

Regarding claims 101 and 128, Ovesjo discloses the spreading codes allocated to the data channels are represented in the code tree shown in figure 2 and the codes are defined by their spreading factor and code number as shown in figure 2.

Regarding claims 102 and 129, Ovesjo discloses generating a scrambling code and inputting the scrambling code to multiplier 34.

Regarding claim 103, 105, 106 and 130, Ovesjo discloses the spreading codes allocated to the data channels are represented in the code tree shown in figure 2 and the codes are defined by their spreading factor and code number as shown in figure 2.

Regarding claim 107, Ovesjo discloses amplifying and filtering the signal to be output (column 5, lines 11-15).

Regarding claims 108, 109, 133, 135 and 136, Ovesjo discloses the scrambling code will comprise a real and an imaginary component and will rotate the signal (figure 1A).

Regarding claim 134, Ovesjo discloses amplifying and filtering the signal to be output (column 5, lines 11-15).

Regarding claim 164, Ovesjo discloses an apparatus for converting data to a channel-modulated signal having a plurality of pairs of in-phase and quadrature phase data. This is shown in figure 1A. The plurality of I signals are input to multipliers 10 and 12 where the quadrature signals are input to multipliers 14 and 16. Data and control information is encoded to data and control channels (column 3, lines 2-16). Code generating means generates spreading codes to the channels. These spreading codes are selected on the basis of data rates (column 5, lines 32-44). The spreading codes correspond to an orthogonal variable spreading code (column 5, lines 16-31). The spreading codes allocated to the data channels are represented in the code tree shown in figure 2. Ovesjo discloses generating a scrambling code and inputting the scrambling code to multiplier 34. Though Ovesjo discloses transmitting a plurality of pairs of I and Q signals as shown in figure 1A, Ovesjo does not disclose allocating a spreading code to a first and second (I and Q) data channel. Dohl discloses the I and Q channel data are spreading by the same spreading code in column 14, lines 24-26. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the same spreading code for each I and Q pair as taught by Dohl in the apparatus of Ovesjo to minimize the number and complexity of spreading codes used. This in turn would allow

the data rate to be at a maximum. The combination of Ovesjo and Dohl does not disclose the spreading code allocated to the control channel is represented by a code with a spreading factor of 256 and a code number of zero. Stewart discloses the DPCCH consists of known pilot symbols to support channel and SNR estimations and is typically spread by a factor of 256 (column 41-47). It would have been obvious for one of ordinary skill in the art at the time of the invention to utilize the control code of Stewart in the combination of Ovesjo and Dohl to take advantage of the power and rate control used to control the data transmitted (column 1, lines 41-47).

Regarding claim 165, Ovesjo discloses the spreading codes allocated to the data channels are represented in the code tree shown in figure 2 and the codes are defined by their spreading factor and code number as shown in figure 2.

Allowable Subject Matter

Claims 161-163 are allowed.

Claims 87-94, 96, 97, 122-124 and 154-158 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hikita et al (US 6,047,306) discloses the spread codes for an I and Q channel pair are identical (column 16, lines 31-34 and figure 15a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Burd
9/28/2005


KEVIN BURD
PRIMARY EXAMINER